

**REMARKS**

**Summary of the Office Action**

The amendment to the specification filed December 21, 2005 is objected to under 35 U.S.C. 132(a) because the Examiner contends that it introduces new matter.

Claims 17, 18 and 21, 22, 25, 26, 28 and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite. These claims are also rejected under 35 U.S.C. 103(a) as being obvious from Parodi et al. U.S. Patent No. 5,651,823 (“Parodi”) in view of Yonemizu et al. U.S. Patent No. 5,958,145 (“Yonemizu”).

**Applicant's Reply**

Applicant has amended claims 17 and 31.

Applicant respectfully traverses the 35 U.S.C. 132(a) new matter objections, and the 35 U.S.C. §§ 112 and 103(a) rejections.

**35 U.S.C. § 132(a) new matter objection**

Applicant, for brevity herein, incorporates by reference the arguments presented in the previous Replies to support the amended language “about a linear axis (e.g., substantially parallel to the rails)” in ¶ [0021] of the specification.

Here, applicant notes that irrespective of whether the current MPEP explicitly mandates or does not mandate the previous 37 § C.F.R. 1.84 (k) (iii) (See e.g., cache of <http://www.uspto.gov/web/offices/pac/doc/general/drawing.htm> as retrieved on October 9, 2006, 2006, attached), the drawings in the instant application filed on May 20, 2002, which originate from priority International patent application filed July 12, 2000 and German patent application filed July 12, 1999, meet the requirement that “Elements of the same view must be in proportion

to each other . . .” Such a drawing requirement follows at least a combination of the current 37 CFR § 1.84, informal rules, and common standards for engineering graphic art drawings.

Applicant again notes that that MPEP 2515 also provides that “the description of the article pictured can be relied on, in combination with the drawings, for what they would reasonably teach one of ordinary skill in the art,” citing *In re Wright*, 569 F.2d 1124, 193 USPQ 332 (CCPA 1977).

In this case, the specification and FIGS. 1 and 2 reasonably teach one of ordinary skill in the art (e.g., in view of the common standards for engineering graphic art drawings) that the cooling plate, heating plate and the loading station for receiving a wafer cassette are disposed one in front of the other “about a linear axis (e.g., substantially parallel to the rails of the internal handling system).”

Further, applicant understands the Examiner’s interpretation to be that the Figures do not necessarily show the claimed linearity, but does not exclude the claimed linearity. Therefore, in applicant’s understanding even under the Examiner’s interpretation, the specification shows the claimed linearity as at least one teaching of the Figures. Thus, the amendment to the specification is not new matter.

In view of the foregoing, applicants respectfully submit that the 35 U.S.C. § 132(a) “new matter” objection is erroneous.

To clarify the basis for the claimed interpretation, applicants propose to further amend specification ¶ [0021] as follows: “the cooling plate, heating plate and the loading station for receiving a wafer cassette may be disposed one in front of the other “~~Fig. 1 shows that the~~  
The cooling plate, heating plate and the loading station for receiving a wafer cassette may be disposed one in front of the other about a linear axis (e.g., substantially parallel to the rails of the

internal handling system) as indicated in FIG. 1 by visual reference to their relative positions along the length of the rails of the internal handling system. “ No new matter is added.

35 U.S.C. § 112 rejection.

Applicant respectfully traverses the § 112 rejections.

In particular with respect to claim 17 line 8, applicant notes that in common English usage the phrase “in front of” in the context of line 8 is readily understood without ambiguity to mean “facing someone or something”. (See e.g., <http://www.answers.com/in+front+of&r=67>). Applicants do not believe that it is necessary to pre-define particular sides to the chamber to impart clear meaning to the phrase “in front of.” Any side or all sides are implied by the phrase “in front to” taken to mean “facing someone or something.” However, to expedite prosecution, applicant has without prejudice amended claim 17 to replace the word “front” with the word “outside”.

With respect to claim 17 line 10, applicant notes that “transverse guide (11)” has been defined in the specification and the figures. (See e.g., Specification ¶¶ [0011], [0025], FIG. 1, etc.). FIG. 1, for example, shows guide 11 is transverse (i.e., transverse: lying or extending across) the wafer processing vacuum chamber. Applicant has amended claim 17 to include the reference numeral 11 after the term “transverse guide” to avoid any confusion.

With respect to claim 17 line 11, applicant notes that the fork can move up and down, and back and forth (i.e., at least two degrees of freedom). The fork and mount arrangement is configured to move said fork up/down and back/forth (i.e., to move said fork with at least two degrees of freedom,” as recited in the claim).

Applicant submits that the amended claims conform to all § 112 requirements.

35 U.S.C. § 103(a) rejection.

Applicant incorporates by reference herein the previously presented Remarks addressing the prior art rejections and the cited references – Parodi and Yonemizu. For brevity, the previously presented Remarks (e.g., Reply dated April 21, 2005 and Reply dated May 26, 2006) are not reproduced herein, but applicant respectfully requests that the Examiner should kindly consider them as they are also applicable to the presently amended claims.

Here, applicant further notes that amended claim 17 calls for a wafer-handling apparatus for placing wafers from a wafer-holding cassette into a wafer processing vacuum chamber having cooling and heating plates. Further, the wafer processing vacuum chamber is a closed enclosure in wafer processing operation. The wafer-handling apparatus, according to claim 17, includes (1) an external handling device . . . “disposed outside of the wafer processing vacuum chamber,” and (2) an internal handling device “disposed within said wafer processing vacuum chamber.” The internal handling device “is provided with a transverse guide,” and “at least one fork arranged in a mount on said transverse guide.” Further, the external handling device and the vacuum chamber “are surrounded by an enclosure.”

Neither Parodi nor Yonemuzi individually disclose (1) an external handling device disposed “outside of the wafer processing vacuum chamber,” where both “are surrounded by an enclosure.” Similarly, neither Parodi nor Yonemuzi individually disclose (2) an internal handling device, which has “at least one fork arranged in a mount on a transverse guide” disposed “within the vacuum chamber.” Therefore, even the combination of Parodi and Yonemuzi does not teach the claimed limitations.

Further, applicant’s invention is not obvious from Parodi and Yonemuzi. Applicant respectfully submits the Office Action (§ 5, last paragraph at bottom of page 4)

mistakenly concludes that applications of vacuum technology are obvious. Applicant does not dispute that the use of vacuum technology in wafer processing is common. However, application of vacuum technology to the mechanical design and reconfiguration of atmospheric pressure processing equipment is complicated by the requirements of making and keeping good vacuum, and is not, as the Office Action mistakenly suggests, an obvious extension of “atmospheric pressure” design processing equipment. For example, the closed enclosure walls, gate valves, and load lock requirements of a vacuum processing chamber can impose difficult geometrical and material constraints, whose solution is not obvious even to those skilled in the art. In particular, applicant submits that wafer handling or loading/unloading schemes for vacuum chambers are not understood by a person of skill in the art to be obvious extensions of atmospheric designs.

In particular, applicant submits that Parodi’s substrate photolithography system 10 is designed for atmospheric pressure use (See Parodi FIGS. 1-23G). The use of photolithographic materials or resists, which are liquids, teaches against any conversion of Parodi’s system 10 or component unit 17 into a vacuum system. Vacuum operation of Parodi’s system is not practical or desirable. Further, conversion of Parodi’s system to a vacuum system is not obvious to a person of skill in the art.

Applicants also note that the Examiner mistakenly identifies Parodi’s heating/cooling unit 17 (FIG. 2) as “chamber” 17. (See Office Action § 5, ¶ 2 ). Applicant respectfully submits that Parodi’s unit 17, which is a component of photolithography system 10, is not a chamber (at least in the sense of a closed enclosure in vacuum wafer processing operation as recited claim 17), but is merely a stack of open-ended shelves stacked three high, with each shelf (e.g., modules 170A, 170B and 170C) containing a central cool plate located between two

ovens. (See e.g., Parodi, FIGS. 1-7 and col. 5 line 50- col. 6 line 33, etc.). Heating/cooling unit 17, wafer-handling device 13 (and likewise wafer handling device 208, wafer handling robot 13, I/O cassettes 19 and 20, coating unit 21, etc.) all are internal to an atmospheric pressure system 10/coating section 11.

Thus, unlike applicant's invention, Parodi does not show, teach or suggest an "outside" wafer handling system to introduce wafers in a processing chamber, which is further coupled to a "within" wafer handling system to move wafers in the processing chamber.

Like Parodi, Yonemuzi's apparatus relates to atmospheric pressure apparatus for which there is no motivation to convert to a vacuum processing environment. The use of washing liquids in Yonemuzi's apparatus teaches away from a vacuum processing chamber. (See Yonemuzi, Abstract, etc.)

Thus, neither Parodi and Yonemuzi address or provide motivation for applicant's invention of an "outside" wafer handling system to introduce wafers in a vacuum wafer processing chamber, which is further coupled to a "within" wafer handling system to move wafers in the processing chamber. Further, as described above modification of either of Parodi's or Yonemuzi's apparatus to a vacuum apparatus will be a non-obvious excersize for a person of ordinary skill in the art.

For at least the foregoing reasons, claim 17 is non-obvious and patentable over Parodi and Yonemuzi.

#### Dependent claims

Applicant has amended claim 31 to recite the limitation "wherein said wafer-holding cassette is disposed along a linear axis extending through said cooling plate and said heating plate, and wherein said internal and external handling devices are configured to move

said wafers along said linear axis.” This limitation (or similar limitations) was incorporated in earlier versions of Claim 17, which were considered and rejected by the Examiner on “new matter” grounds. (See, Claim 17 in Reply of April 17, 2005, and Office Action dated July 18, 2005, § 2). Applicant has addressed the 35 U.S.C. § 132(a) new matter objection above. Applicant requests entry of this claim at least to place the application in a better form to resolve issues.

Further, applicant respectfully submits that claims 18 and 21, 22, 25, 26, 28 and 31 are patentable for at least the same reasons that parent claim 17 is patentable over Parodi and Yonemuzi as discussed in the previous section. Claim 31 in particular is also patentable because neither Parodi or Yonemuzi show teach or suggest the claimed limitation.

#### Request for Interview

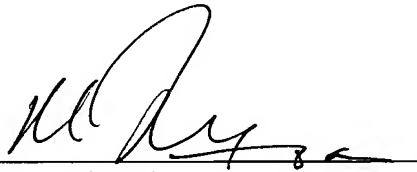
Applicant respectfully requests that the Examiner grant the undersigned a telephone interview to discuss entry of the amended claims, the distinguishing features of the amended claims with respect to the cited prior art, and the new matter objection.

Conclusion

Applicants respectfully submit that this application is now in condition for allowance. Reconsideration and prompt allowance of which are requested

Respectfully submitted,

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## DRAWING

(Excerpted from *General Information Concerning Patents* print brochure)

The applicant for a patent will be required by law to furnish a drawing of the invention whenever the nature of the case requires a drawing to understand the invention. However, the Commissioner may require a drawing where the nature of the subject matter admits of it; this drawing must be filed with the application. This includes practically all inventions except compositions of matter or processes, but a drawing may also be useful in the case of many processes.

The drawing must show every feature of the invention specified in the claims, and is required by the Office rules to be in a particular form. The Office specifies the size of the sheet on which the drawing is made, the type of paper, the margins, and other details relating to the making of the drawing. The reason for specifying the standards in detail is that the drawings are printed and published in a uniform style when the patent issues, and the drawings must also be such that they can be readily understood by persons using the patent descriptions.

No names or other identification will be permitted within the "sight" of the drawing, and applicants are expected to use the space above and between the hole locations to identify each sheet of drawings. This identification may consist of the attorney's name and docket number or the inventor's name and application number and may include the sheet number and the total number of sheets filed (for example, "sheet 2 of 4"). The following rule, reproduced from title 37 of the Code of Federal Regulations, relates to the standards for drawings:

### § 1.84 Standards for drawings.

(Excerpted from *General Information Concerning Patents* print brochure)

(a) Drawings. There are two acceptable categories for presenting drawings in utility patent applications:

(1) Black ink. Black and white drawings are normally required. India ink, or its equivalent that secures solid black lines, must be used for drawings, or

(2) Color. On rare occasions, color drawings may be necessary as the only practical medium by which to disclose the subject matter sought to be patented in a utility patent application or the subject matter of a statutory invention registration. The Patent and Trademark Office will accept color drawings in utility patent applications and statutory invention registrations only after granting a petition filed under this paragraph explaining why the color drawings are necessary. Any such petition must include the following:

(i) The appropriate fee set forth in 37 CFR 1.17(i);

(ii) Three (3) sets of color drawings; and

(iii) The specification must contain the following language as the first paragraph in that portion of the specification relating to the brief description of the drawing:

"The file of this patent contains at least one drawing executed in color. Copies of this patent with color drawing(s) will be provided by the Patent and Trademark Office upon request and payment of the necessary fee."

If the language is not in the specification, a proposed amendment to insert the language must accompany the petition.

**(b) Photographs.**

(1) Black and white. Photographs are not ordinarily permitted in utility patent applications. However, the Office will accept photographs in utility patent applications only after granting a petition filed under this paragraph which requests that photographs be accepted. Any such petition must include the following:

- (i) The appropriate fee set forth in 37 CFR 1.17(i); and
- (ii) Three (3) sets of photographs.

Photographs must either be developed on double weight photographic paper or be permanently mounted on Bristol board. The photographs must be of sufficient quality so that all details in the drawing are reproducible in the printed patent.

(2) Color. Color photographs will be accepted in utility patent applications if the conditions for accepting color drawings have been satisfied. See paragraph (a)(2) of this section.

**(c) Identification of drawings.** Identifying indicia, if provided, should include the application number or the title of the invention, inventor's name, docket number (if any), and the name and telephone number of a person to call if the Office is unable to match the drawings to the proper application. This information should be placed on the back of each sheet of drawings a minimum distance of 1.5 cm. (5/8 inch) down from the top of the page. In addition, a reference to the application number, or, if an application number has not been assigned, the inventor's name, may be included in the left-hand corner provided that the reference appears within 1.5cm. (5/8 inch) from the top of the sheet.

**(d) Graphic forms in drawings.** Chemical or mathematical formulae, tables, and waveforms may be submitted as drawings and are subject to the same requirements as drawings. Each chemical or mathematical formula must be labeled as a separate figure, using brackets when necessary, to show that information is properly integrated. Each group of waveforms must be presented as a single figure, using a common vertical axis with time extending along the horizontal axis. Each individual waveform discussed in the specification must be identified with a separate letter designation adjacent to the vertical axis.

**(e) Type of paper.** Drawings submitted to the Office must be made on paper which is flexible, strong, white, smooth, nonshiny, and durable. All sheets must be free from cracks, creases, and folds. Only one side of the sheet shall be used for the drawing. Each sheet must be reasonably free from erasures and must be free from alterations, overwritings, and interlineations. Photographs must either be developed on double weight photographic paper or be permanently mounted on Bristol board. See paragraph (b) of this section for other requirements for photographs.

**(f) Size of paper.** All drawing sheets in an application must be the same size. One of the shorter sides of the sheet is regarded as its top. The size of the sheets on which drawings are made must be:

- (1) 21.0 cm. by 29.7 cm. (DIN size A4), or
- (2) 21.6 cm. by 27.9 cm. (8 1/2 by 11 inches).

**(g) Margins.** The sheets must not contain frames around the sight (i.e., the usable surface), but should

have scan target points, i.e., crosshairs, printed on two catercorner margin corners. Each sheet must include a top margin of at least 2.5 cm. (1 inch), a left side margin of at least 2.5 cm. (1 inch), a right side margin of at least 1.5 cm. (5/8 inch), and a bottom margin of at least 1.0 cm. (3/8 inch), thereby leaving a sight no greater than 17.0 cm. by 26.2 cm. on 21.0 cm. by 29.7 cm. (DIN size A4) drawing sheets, and a sight no greater than 17.6 cm. by 24.4 cm. (6 15/16 by 9 5/8 inches) on 21.6 cm. by 27.9 cm. (8 1/2 by 11 inch) drawing sheets.

**(h) Views.** The drawing must contain as many views as necessary to show the invention. The views may be plan, elevation, section, or perspective views. Detail views of portions of elements, on a larger scale if necessary, may also be used. All views of the drawing must be grouped together and arranged on the sheet(s) without wasting space, preferably in an upright position, clearly separated from one another, and must not be included in the sheets containing the specifications, claims, or abstract. Views must not be connected by projection lines and must not contain center lines. Waveforms of electrical signals may be connected by dashed lines to show the relative timing of the waveforms.

(1) Exploded views. Exploded views, with the separated parts embraced by a bracket, to show the relationship or order of assembly of various parts are permissible. When an exploded view is shown in a figure which is on the same sheet as another figure, the exploded view should be placed in brackets.

(2) Partial views. When necessary, a view of a large machine or device in its entirety may be broken into partial views on a single sheet, or extended over several sheets if there is no loss in facility of understanding the view. Partial views drawn on separate sheets must always be capable of being linked edge to edge so that no partial view contains parts of another partial view. A smaller scale view should be included showing the whole formed by the partial views and indicating the positions of the parts shown. When a portion of a view is enlarged for magnification purposes, the view and the enlarged view must each be labeled as separate views.

(i) Where views on two or more sheets form, in effect, a single complete view, the views on the several sheets must be so arranged that the complete figure can be assembled without concealing any part of any of the views appearing on the various sheets. (ii) A very long view may be divided into several parts placed one above the other on a single sheet. However, the relationship between the different parts must be clear and unambiguous.

(3) Sectional views. The plane upon which a sectional view is taken should be indicated on the view from which the section is cut by a broken line. The ends of the broken line should be designated by Arabic or Roman numerals corresponding to the view number of the sectional view, and should have arrows to indicate the direction of sight. Hatching must be used to indicate section portions of an object, and must be made by regularly spaced oblique parallel lines spaced sufficiently apart to enable the lines to be distinguished without difficulty. Hatching should not impede the clear reading of the reference characters and lead lines. If it is not possible to place reference characters outside the hatched area, the hatching may be broken off wherever reference characters are inserted. Hatching must be at a substantial angle to the surrounding axes or principal lines, preferably 45°. A cross section must be set out and drawn to show all of the materials as they are shown in the view from which the cross section was taken. The parts in cross section must show proper material(s) by hatching with regularly spaced parallel oblique strokes, the space between strokes being chosen on the basis of the total area to be hatched. The various parts of a cross section of the same item should be hatched in the same manner and should accurately and graphically indicate the nature of the material(s) that is illustrated in cross section. The hatching of juxtaposed different elements must be angled in a different way. In the case of large areas, hatching may be confined to an edging drawn around the entire inside of the outline of the area to be hatched. Different types of hatching should have different conventional meanings as regards the nature of a material seen in cross section.

(4) Alternate position. A moved position may be shown by a broken line superimposed upon a suitable view if this can be done without crowding; otherwise, a separate view must be used for this purpose.

(5) Modified forms. Modified forms of construction must be shown in separate views.

(i) **Arrangement of views.** One view must not be placed upon another or within the outline of another. All views on the same sheet should stand in the same direction and, if possible, stand so that they can be read with the sheet held in an upright position. If views wider than the width of the sheet are necessary for the clearest illustration of the invention, the sheet may be turned on its side so that the top of the sheet, with the appropriate top margin to be used as the heading space, is on the right-hand side. Words must appear in a horizontal, left-to-right fashion when the page is either upright or turned so that the top becomes the right side, except for graphs utilizing standard scientific convention to denote the axis of abscissas (of X) and the axis of ordinates (of Y).

(j) **View for Official Gazette.** One of the views should be suitable for publication in the Official Gazette as the illustration of the invention.

(k) **Scale.**

(1) The scale to which a drawing is made must be large enough to show the mechanism without crowding when the drawing is reduced in size to two-thirds in reproduction. Views of portions of the mechanism on a larger scale should be used when necessary to show details clearly. Two or more sheets may be used if one does not give sufficient room. The number of sheets should be kept to a minimum.

(2) When approved by the examiner, the scale of the drawing may be graphically represented. Indications such as "actual size" or "scale 1/2" on the drawings, are not permitted, since these lose their meaning with reproduction in a different format.

(3) Elements of the same view must be in proportion to each other, unless a difference in proportion is indispensable for the clarity of the view. Instead of showing elements in different proportion, a supplementary view may be added giving a larger-scale illustration of the element of the initial view. The enlarged element shown in the second view should be surrounded by a finely drawn or "dot-dash" circle in the first view indicating its location without obscuring the view.

(l) **Character of lines, numbers, and letters.** All drawings must be made by a process which will give them satisfactory reproduction characteristics. Every line, number, and letter must be durable, clean, black (except for color drawings), sufficiently dense and dark, and uniformly thick and well-defined. The weight of all lines and letters must be heavy enough to permit adequate reproduction. This requirement applies to all lines however fine, to shading, and to lines representing cut surfaces in sectional views. Lines and strokes of different thickness' may be used in the same drawing where different thickness' have a different meaning.

(m) **Shading.** The use of shading in views is encouraged if it aids in understanding the invention and if it does not reduce legibility. Shading is used to indicate the surface or shape of spherical, cylindrical, and conical elements of an object. Flat parts may also be lightly shaded. Such shading is preferred in the case of parts shown in perspective, but not for cross sections. See paragraph (h)(3) of this section. Spaced lines for shading are preferred. These lines must be thin, as few in number as practicable, and they must contrast with the rest of the drawings. As a substitute for shading, heavy lines on the shade side of objects can be used except where they superimpose on each other or obscure reference characters. Light should come from the upper left corner at an angle of 45°. Surface delineations should

preferably be shown by proper shading. Solid black shading areas are not permitted, except when used to represent bar graphs or color.

**(n) Symbols.** Graphical drawing symbols may be used for conventional elements when appropriate. The elements for which such symbols and labeled representations are used must be adequately identified in the specification. Known devices should be illustrated by symbols which have a universally recognized conventional meaning and are generally accepted in the art. Other symbols which are not universally recognized may be used, subject to approval by the Office, if they are not likely to be confused with existing conventional symbols, and if they are readily identifiable.

**(o) Legends.** Suitable descriptive legends may be used, or may be required by the Examiner, where necessary for understanding of the drawing, subject to approval by the Office. They should contain as few words as possible.

**(p) Numbers, letters, and reference characters.**

(1) Reference characters (numerals are preferred), sheet numbers, and view numbers must be plain and legible, and must not be used in association with brackets or inverted commas, or enclosed within outlines, e.g., encircled. They must be oriented in the same direction as the view so as to avoid having to rotate the sheet. Reference characters should be arranged to follow the profile of the object depicted.

(2) The English alphabet must be used for letters, except where another alphabet is customarily used, such as the Greek alphabet to indicate angles, wavelengths, and mathematical formulas.

(3) Numbers, letters, and reference characters must measure at least .32 cm. (1/8 inch) in height. They should not be placed in the drawing so as to interfere with its comprehension. Therefore, they should not cross or mingle with the lines. They should not be placed upon hatched or shaded surfaces. When necessary, such as indicating a surface or cross section, a reference character may be underlined and a blank space may be left in the hatching or shading where the character occurs so that it appears distinct.

(4) The same part of an invention appearing in more than one view of the drawing must always be designated by the same reference character, and the same reference character must never be used to designate different parts.

(5) Reference characters not mentioned in the description shall not appear in the drawings. Reference characters mentioned in the description must appear in the drawings.

**(q) Lead lines.** Lead lines are those lines between the reference characters and the details referred to. Such lines may be straight or curved and should be as short as possible. They must originate in the immediate proximity of the reference character and extend to the feature indicated. Lead lines must not cross each other. Lead lines are required for each reference character except for those which indicate the surface or cross section on which they are placed. Such a reference character must be underlined to make it clear that a lead line has not been left out by mistake. Lead lines must be executed in the same way as lines in the drawing. See paragraph (l) of this section. **(r) Arrows.** Arrows may be used at the ends of lines, provided that their meaning is clear, as follows:

(1) On a lead line, a freestanding arrow to indicate the entire section towards which it points;

(2) On a lead line, an arrow touching a line to indicate the surface shown by the line looking along the direction of the arrow; or

(3) To show the direction of movement.

(s) **Copyright or Mask Work Notice.** A copyright or mask work notice may appear in the drawing, but must be placed within the sight of the drawing immediately below the figure representing the copyright or mask work material and be limited to letters having a print size of .32 cm. to .64 cm. (1/8 to 1/4 inches) high. The content of the notice must be limited to only those elements provided for by law. For example, “ 1983 John Doe” (17 U.S.C. 401) and “\*M\* John Doe” (17 U.S.C. 909) would be properly limited and, under current statutes, legally sufficient notices of copyright and mask work, respectively. Inclusion of a copyright or mask work notice will be permitted only if the authorization language set forth in 1.71(e) is included at the beginning (preferably as the first paragraph) of the specification.

(t) **Numbering of sheets of drawings.** The sheets of drawings should be numbered in consecutive Arabic numerals, starting with 1, within the sight as defined in paragraph (g) of this section. These numbers, if present, must be placed in the middle of the top of the sheet, but not in the margin. The numbers can be placed on the right-hand side if the drawing extends too close to the middle of the top edge of the usable surface. The drawing sheet numbering must be clear and larger than the numbers used as reference characters to avoid confusion. The number of each sheet should be shown by two Arabic numerals placed on either side of an oblique line, with the first being the sheet number and the second being the total number of sheets of drawings, with no other marking.

(u) **Numbering of views.**

(1) The different views must be numbered in consecutive Arabic numerals, starting with 1, independent of the numbering of the sheets and, if possible, in the order in which they appear on the drawing sheet  
(s). Partial views intended to form one complete view, on one or several sheets, must be identified by the same number followed by a capital letter. View numbers must be preceded by the abbreviation “FIG.” Where only a single view is used in an application to illustrate the claimed invention, it must not be numbered and the abbreviation “FIG.” must not appear.

(2) Numbers and letters identifying the views must be simple and clear and must not be used in association with brackets, circles, or inverted commas. The view numbers must be larger than the numbers used for reference characters.

(v) **Security markings.** Authorized security markings may be placed on the drawings provided they are outside the sight, preferably centered in the top margin.

(w) **Corrections.** Any corrections on drawings submitted to the Office must be durable and permanent.

(x) **Holes.** No holes should be made by applicant in the drawing sheets.

The requirements relating to drawings are strictly enforced, but a drawing not complying with all of the regulations may be accepted for purpose of examination, and correction or a new drawing will be required later.

Applicants are advised to employ competent draftsmen to make their drawings.